(1) *Interference to base receivers from base or fixed transmitters.* Licensees should attempt to resolve such interference by technical means or operating arrangements.

(2) *Inteference to mobile receivers from mobile transmitters.* No protection is provided against mobile-to-mobile interference.

(3) *Interference to base receivers from mobile transmitters.* No protection is provided against mobile-to-base interference.

(4) *Interference to fixed stations.* Licensees should attempt to resolve such interference by technical means or operating arrangements.

(5) *Anomalous or infrequent propagation modes.* No protection is provided against interference caused by tropospheric and ionospheric propagation of signals.

(6) *Facilities for which the FCC not notified.* No protection is provided against interference to the service of any additional or modified transmitter operating pursuant to §22.163 or §22.165, unless and until the licensee notifies the FCC (FCC Form 489) of the additional or modified transmitter.

(7) *In-building radiation systems.* No protection is provided against interference to the service of in-building radiation systems (see §22.383).

[59 FR 59507, Nov. 17, 1994, as amended at 62 FR 11633, Mar. 12, 1997]

### §22.353 Blanketing interference.

Licensees of Public Mobile Services stations are responsible for resolving cases of blanketing interference in accordance with the provisions of this section.

(a) Except as provided in paragraph (c) of this section, licensees must resolve any cases of blanketing interference in their area of responsibility caused by operation of their transmitter(s) during a one-year period following commencement of service from new or modified transmitter(s). Interference must be resolved promptly at no cost to the complainant.

(b) The area of responsibility is that area in the immediate vicinity of the transmitting antenna of stations where the field strength of the electromagnetic radiation from such stations equals or exceeds 115 dBμV/m. To determine the radial distance to the boundary of this area, the following formula must be used:

$$d = 0.394 \times \sqrt{p}$$

where d is the radial distance to the boundary, in kilometers

p is the radial effective radiated power, in kilowatts

The maximum effective radiated power in the pertinent direction, without consideration of the antenna's vertical radiation pattern or height, must be used in the formula.

(c) Licensees are not required to resolve blanketing interference to mobile receivers or non-RF devices or blanketing interference occurring as a result of malfunctioning or mistuned receivers, improperly installed consumer antenna systems, or the use of high gain antennas or antenna booster amplifiers by consumers.

(d) Licensees that install transmitting antennas at a location where there are already one or more transmitting antennas are responsible for resolving any new cases of blanketing interference in accordance with this section.

(e) Two or more licensees that concurrently install transmitting antennas at the same location are jointly responsible for resolving blanketing interference cases, unless the FCC can readily determine which station is causing the interference, in which case the licensee of that station is held fully responsible.

(f) After the one year period of responsibility to resolve blanketing interference, licensees must provide upon request technical information to complainants on remedies for blanketing interference.

### §22.355 Frequency tolerance.

Except as otherwise provided in this part, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C–1 of this section.

TABLE C–1.—FREQUENCY TOLERANCE FOR TRANSMITTERS IN THE PUBLIC MOBILE SERVICES

| Frequency range (MHz) | Base, fixed (ppm) | Mobile ≤3 watts (ppm) | Mobile <=3 watts (ppm) |
|---|---|---|---|
| 25 to 50 ..... | 20.0 | 20.0 | 50.0 |
| 50 to 450 ..... | 5.0 | 5.0 | 50.0 |
| 450 to 512 ..... | 2.5 | 5.0 | 5.0 |
| 821 to 896 ..... | 1.5 | 2.5 | 2.5 |
| 928 to 929 ..... | 5.0 | n/a | n/a |
| 929 to 960 ..... | 1.5 | n/a | n/a |
| 2110 to 2220 ..... | 10.0 | n/a | n/a |

[61 FR 54099, Oct. 17, 1996]

### § 22.357 Emission types.

Any authorized station in the Public Mobile Services may transmit any emission type provided that the resulting emission complies with the appropriate emission mask. See §§ 22.359, 22.861 and 22.917.

[61 FR 54099, Oct. 17, 1996]

### § 22.359 Emission masks.

Unless otherwise indicated in the rules governing a specific radio service, all transmitters intended for use in the Public Mobile Services must be designed to comply with the emission masks outlined in this section. If an emission outside of the authorized bandwidth causes harmful interference, the FCC may, at its discretion, require greater attenuation than specified in this section.

(a) *Analog modulation.* For transmitters other than those employing digital modulation techniques, the mean or peak envelope power of adjacent channel emissions must be attenuated below the output mean or peak envelope power of the total emission (P, in Watts) in accordance with the following schedule:

(1) On any frequency removed from the center frequency of the assigned channel by more than 50 percent up to and including 100 percent of the authorized bandwidth:

at least 25 dB:

(2) On any frequency removed from the center frequency of the assigned channel by more than 100 percent up to and including 250 percent of the authorized bandwidth:

at least 35 dB:

(3) On any frequency removed from the center frequency of the assigned channel by more than 250 percent of the authorized bandwidth:

at least 43 + 10 log P dB, or 80 dB, whichever is the lesser attenuation.

(b) *Digital modulation.* For transmitters not equipped with an audio low pass filter and for transmitters employing digital modulation techniques, the mean or peak envelope power of sideband emissions must be attenuated below the mean or peak envelope power of the total emission (P, in Watts) in accordance with the following schedule:

(1) For transmitters that operate in the frequency ranges 35 to 44 MHz, 72 to 73 MHz, 75.4 to 76.0 MHz and 152 to 159 MHz,

(i) On any frequency removed from the center frequency of the assigned channel by a displacement frequency $f_d$ (in kHz) of more than 5 kHz but not more than 10 kHz:

at least 83 log ($f_d$÷5) dB;

(ii) On any frequency removed from the center frequency of the assigned channel by a displacement frequency $f_d$ (in kHz) of more than 10 kHz but not more than 250 percent of the authorized bandwidth:

at least 29 log $f_d$2÷11) dB or 50 dB, whichever is the lesser attenuation;

(iii) On any frequency removed from the center frequency of the assigned channel by more than 250 percent of the authorized bandwidth:

at least 43 + 10 log P dB, or 80 dB, whichever is the lesser attenuation.

(2) For transmitters that operate in the frequency ranges 450 to 512 MHz and 929 to 932 MHz,

(i) On any frequency removed from the center frequency of the assigned channel by a displacement frequency $f_d$ (in kHz) of more than 5 kHz but not more than 10 kHz:

at least 83 log ($f_d$÷5) dB;

(ii) On any frequency removed from the center frequency of the assigned channel by a displacement frequency $f_d$ (in kHz) of more than 10 kHz but not more than 250 percent of the authorized bandwidth: